Scatterplots between -log10(pvals) with CMV and with HLA constrained on TCR having pval with CMV < 0.001 HLA-B\*08:01 HLA-A\*24:02 HLA-DQAB\*05:05 03:01 HLA-B\*07:02 each point is one TCR with CMV pval <0.001 each point is one TCR with CMV pval <0.001 each point is one TCR with CMV pval <0.001 each point is one TCR with CMV pval <0.001 41.9% TCRs sign with CMV still sign with HLA 21.4% TCRs sign with CMV still sign with HLA 40% TCRs sign with CMV still sign with HLA 21.7% TCRs sign with CMV still sign with HLA n\_neighbors 25 n\_neighbors n\_neighbors n\_neighbors -log10(hla\_pval) log10(hla\_ 7.5 10.0 -log10(cmv\_pval) -log10(cmv\_pval) -log10(cmv\_pval) -log10(cmv\_pval) HLA-B\*44:02 HLA-DRB1\*01:01 HLA-DRB1\*07:01 HLA-DQAB\*01:01\_05:01 each point is one TCR with CMV pval <0.001 each point is one TCR with CMV pval <0.001 each point is one TCR with CMV pval <0.001 each point is one TCR with CMV pval <0.001 25% TCRs sign with CMV still sign with HLA 14.6% TCRs sign with CMV still sign with HLA 18.8% TCRs sign with CMV still sign with HLA 74.2% TCRs sign with CMV still sign with HLA n\_neighbors n\_neighbors n\_neighbors n\_neighbors -log10(hla\_pval) -log10(hla\_pval) -log10(hla\_pval) -log10(cmv\_pval) -log10(cmv\_pval) -log10(cmv\_pval) -log10(cmv\_pval) HLA-C\*07:01 HLA-C\*07:02 HLA-DRB1\*03:01 HLA-C\*04:01 each point is one TCR with CMV pval <0.001 each point is one TCR with CMV pval <0.001 each point is one TCR with CMV pval <0.001 each point is one TCR with CMV pval <0.001 0% TCRs sign with CMV still sign with HLA 35.6% TCRs sign with CMV still sign with HLA 24.7% TCRs sign with CMV still sign with HLA 47.8% TCRs sign with CMV still sign with HLA n\_neighbors 10.0 n\_neighbors n\_neighbors n\_neighbors -log10(hla\_pval) -log10(hla\_pval) 12.5 10.0 10.0 log10(hla\_ 7.5 15 7.5 5.0 5.0 7.5 10.0 3.50 3.75 -log10(cmv\_pval) -log10(cmv\_pval) -log10(cmv\_pval) -log10(cmv\_pval) HLA-DQAB\*02:01 02:02 HLA-DQAB\*03:01\_03:02 HLA-C\*05:01 HLA-A\*01:01 each point is one TCR with CMV pval <0.001 each point is one TCR with CMV pval <0.001 each point is one TCR with CMV pval <0.001 each point is one TCR with CMV pval <0.001 4.8% TCRs sign with CMV still sign with HLA 15.4% TCRs sign with CMV still sign with HLA 78.6% TCRs sign with CMV still sign with HLA 26.9% TCRs sign with CMV still sign with HLA n\_neighbors 10.0 -log10(hla\_pval) n\_neignbors -log10(hla\_pval) -log10(hla\_pval) 5.0 12.5 7.5 7.5 -log10(cmv\_pval) -log10(cmv\_pval) -log10(cmv\_pval) -log10(cmv\_pval) HLA-A\*03:01 HLA-A\*02:01 HLA-C\*03:04 HLA-DRB1\*15:01 each point is one TCR with CMV pval <0.001 each point is one TCR with CMV pval <0.001 each point is one TCR with CMV pval <0.001 each point is one TCR with CMV pval <0.001 0% TCRs sign with CMV still sign with HLA 14.3% TCRs sign with CMV still sign with HLA 4.4% TCRs sign with CMV still sign with HLA 38.9% TCRs sign with CMV still sign with HLA n\_neighbors 16 n\_neighbors 2.00 n\_neighbors n\_neighbors -log10(hla\_pval) 1.75 -log10(hla\_ 20 1.50 1.25 -log10(cmv\_pval) -log10(cmv\_pval) -log10(cmv\_pval) -log10(cmv\_pval) HLA-C\*06:02 HLA-DRB1\*04:01 HLA-DPAB\*01:03\_02:01 HLA-DPAB\*01:03\_04:02 each point is one TCR with CMV pval <0.001 each point is one TCR with CMV pval <0.001 each point is one TCR with CMV pval <0.001 each point is one TCR with CMV pval <0.001 46.2% TCRs sign with CMV still sign with HLA 45.8% TCRs sign with CMV still sign with HLA 66.7% TCRs sign with CMV still sign with HLA 0% TCRs sign with CMV still sign with HLA n\_neighbors n\_neighbors n\_neighbors n\_neighbors -log10(hla\_pval) 7.5 -log10(hla 5.0 4.00 4.25 3.0 4.0 4.5 5.0 -log10(cmv\_pval) -log10(cmv\_pval) -log10(cmv\_pval) -log10(cmv\_pval) HLA-DPAB\*01:03 04:01 HLA-DQAB\*05:01 02:01 HLA-DQAB\*01:02 06:02 each point is one TCR with CMV pval <0.001 each point is one TCR with CMV pval <0.001 each point is one TCR with CMV pval <0.001 0% TCRs sign with CMV still sign with HLA 47.8% TCRs sign with CMV still sign with HLA 38.9% TCRs sign with CMV still sign with HLA n\_neighbors 60 n\_neighbors n\_neighbors -log10(hla\_pval) log10(hla\_pval) 10.0 50 40 7.5 30 7.5 5.0 6 -log10(cmv\_pval) -log10(cmv\_pval) -log10(cmv\_pval)